



S. RUSSELL SYLVA
Commissioner

The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

Department of Environmental Quality Engineering

Division of Water Pollution Control

Technical Services Branch

Westview Building, Lyman School

Westborough, MA 01581

February 5, 1987

Superfund Records Center

SITE: NEW BEDFORD

BREAK: 10.3

OTHER: 488589

Tony Depalma
EPA, WCC-2130
JFK Federal Building
Boston, MA 02108

Dear Mr. Depalma:

A sampling survey was conducted on October 14-16, 1986 by the Technical Services Branch of discharges along the Acushnet River. This survey was part of the 1986 Buzzards Bay Program coordinated by Lawrence Gil. Enclosed you will find a copy of the assessment of laboratory analysis and summary of permit violations sent to Phil Ripa in the Southeast Region of the Division.

The results of this survey can be obtained from the Westborough office. If you have any questions, or would like further information, please call me at (617) 366-9181.

Sincerely,

Catherine O'Riordan
Assistant Sanitary Engineer

CO:djm
Enclosure

cc: A. Cooperman
R. Kubit
P. Hogan
L. Gil ✓



SDMS DocID

488589

Larry

MEMORANDUM

TO: Phil Ripa, Associate Sanitary Engineer, SERO, Lakeville

FROM: Catherine O'Riordan, Assistant Sanitary Engineer, DWPC-TSB,
Westborough

DATE: January 29, 1987

SUBJECT: Water Quality Survey of Acushnet River, New Bedford - Results of
Laboratory Analysis

Sampling was conducted at four NPDES permitted discharges on the Acushnet River on October 14-16, 1986. During this period samples were also obtained from the Hurricane Dike and from the CSO's at Sawyer Street and Merrimac Street. Enclosed are the results of laboratory analysis.

Permitted discharges sampled include the Fairhaven and New Bedford Wastewater Treatment Facilities, Revere Copper Products, and the Acushnet Company, Golf Division. Twenty-four hour flow composite samples were taken using ISCO 1680 automatic samplers. Composite samples were tested for BOD, suspended solids, settleable solids, nutrients, and metals. Grab samples were taken for fecal coliform, pH, chlorine residual, oil and grease, and volatile organic acids (VOA). Note that samples collected on October 15 were not delivered to the lab until October 16.

Following is a summary of field observations and noted permit violations at each sampling station.

Fairhaven Wastewater Treatment Plant - Although this facility has no permit limit for ammonia, samples showed high levels (11 mg/l) during this sampling period. Coliform counts were also high, however, chlorination requirements are seasonal and are not in effect after October 15. VOA analysis showed the presence of methyl tertibutyl ether both days (18 and 19 ug/l) as well as chloroform (2.8 ug/l) and methylene chloride (1.3 ug/l). Due to equipment problems, samples obtained on October 16, 1986 were grab samples. Effluent appeared only slightly turbid.

New Bedford Wastewater Treatment Plant - All samples taken at New Bedford Wastewater Treatment Plant were grab samples. Effluent on both days was very turbid and a grey-purple color, with a strong odor. All of the parameters tested far exceeded their permit limits. On October 15, BOD was 159 mg/l; total suspended solids 142 mg/l; settleable solids 5.5 mg/l; and ammonia 8.1 mg/l. Effluent looked oily and foamy and showed oil and grease of 22 mg/l. VOA analysis showed total organics of 1013 ug/l on October 15 and 813 ug/l on October 16. These included chloroform, 1,1,1-trichloroethylene, toluene, ethyl benzene and xylenes.

It was observed that the primary clarifiers were exposed to the wind, preventing proper solids and scum removal. A high level of chloride (1,750 mg/l) was noted on October 15, indicating salt water intrusion.

Revere Copper Products - The effluent from outfall 002 appeared clear both days with little or no oil floating on the surface. VOA analysis showed presence of five different organic acids including methylene chloride, chloroform, and acetone (47 ug/l). Other parameters were within proposed permit limits (draft permit 11/86).

Grab samples were taken at outfall 004C and tested for oil and grease. This discharge consists of wastewater from the Gale oil separator as well as raw sanitary wastewater. The draft permit requires that this discharge be tied into the municipal sewer after completion of the sewer extension. As of this time, the city has not made any plans for this sewer extension, and raw wastewater continues to flow into the river.

Acushnet Company, Golf Division - During this sampling period, the effluent appeared slightly turbid, and was a white color. All parameters were within proposed permit limits (draft permit 8/86). VOA analysis showed high levels of trichlorotrifluoroethane (820 ug/l) and chloroform (22 ug/l). Total organics on October 15 were 853 ug/l and on October 16, 55 ug/l.

Sampling was also conducted at two COS's on October 14, 15 and 16 during low tide. Grab samples were tested for fecal and total coliform, BOD, suspended solids, settleable solids, nutrients, metals, oil and grease, PCB's and volatile organic acids (VOA). Rainfall during this sampling period was measured to be 1" on October 14 and 1/10" on October 16. Rainfall was measured at the weather station at Hurricane Dike.

Merrimac Street CSO - According to the 1983 Interim Summary Report on CSO's by CDM, this outfall is not connected to the interceptor system. It is a direct dry weather discharge with an average flow of 0.03 MGD. This discharge was sampled on October 14 and October 15 only. Laboratory analysis shows high total and fecal coliform counts on both days (total coliform, 430,000/100 ml and 10,000/100 ml; and fecal coliform 43,000/ 100 ml and 1,300/100 ml). Total suspended solids were also high on October 14 (17 mg/l). Values for BOD, ammonia, total phosphorus, and total suspended solids are lower on October 15 than the values for these parameters on October 14. This could indicate I/I problems in the sewer lines connected to this discharge.

VOA analysis showed presence of trichloroethylene both days (7.2 ug/l and 4.5 ug/l). PCB, Aroclor 1254 was found on October 14 at 0.48 ug/l, possibly washed through the system after the rainfall.

Sawyer Street CSO - In the 1983 Interim Summary Report on CSO's, the Sawyer Street CSO is classified as a wet weather discharge only. However, during the October sampling period, flow was observed from

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this discharge all three days at low tide. Flow was estimated on October 16 at 0.2 cubic feet/second. Although rain did occur two days prior to this observation, flow at this rate may indicate a dry weather discharge.

Results of laboratory analysis for several parameters are summarized below.

Sawyer Street CSO

	10/14	10/15	10/16
BOD	16	135	147
Total Suspended Solids	5	67	92
Ammonia	4.4	6.7	6.4
Total Phosphorus	5.2	15	—
Fecal Coliform/100 ml	2.4X10 ⁶	4.3X10 ⁶	2.4X10 ⁶
Oil and Grease	11	33	—
Chloride	42	1,025	115

(All units mg/l unless otherwise noted)

In addition, VOA analysis shows high total organics each day. Organics present include acetone (310 ug/l), chloroform, methyl ethyl ketone, trichloroethylene, toluene, and xylenes. These data indicate industrial connections, as well as sanitary connections to the sewer lines feeding this discharge.

Also observed at this discharge were plumes of various colors (dyes) during low tide sampling. Because of the continuous flow and high level of contaminants from this discharge, further investigation is recommended to determine the cause of this overflow.

Hurricane Dike - Sampling was conducted at the opening of the dike. Composite samples were obtained of the outgoing tide using ISCO 1680 automatic samplers. Laboratory analysis showed levels of total coliform (2,300/100 ml on October 14 and 6,200/100 ml on October 15), and fecal coliform (80/100 ml on October 14 and 180/100 ml on October 15).

CO/ac

cc: Larry Gil, DWPC, Westborough
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